State Sustainability

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PUBLIC LEADERSHIP, STEWARDSHIP, COMMITMENT

EXECUTIVE OFFICE of ENVIRONMENTAL AFFAIRS

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For more information on the Program, please visit: http://www.mass.gov/envir/Sustainable

Massachusetts Adopts New Green Building Standards

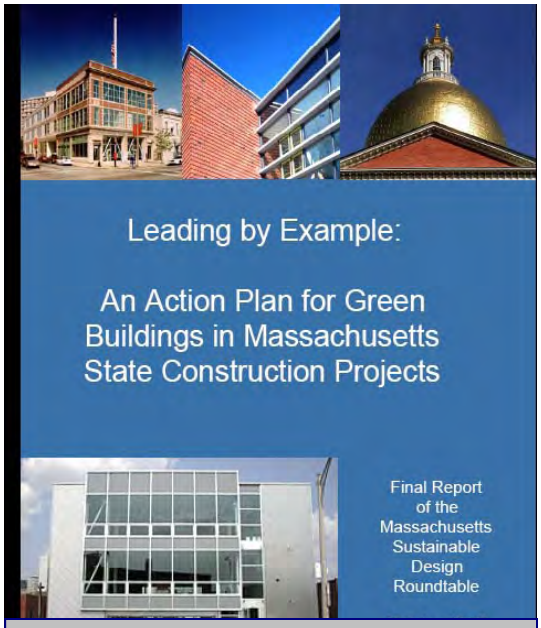
"MA LEED Plus" Standard Effective September 1, 2006

As part of the Commonwealth's efforts to reduce energy consumption at state government facilities and provide a healthier and more productive work environment, Massachusetts has adopted a new "Mass. LEED Plus" standard that will ensure that all new construction and major renovation projects use resources efficiently, result in environmental and health benefits, and reduce energy costs for state government.

The new standard is outlined in Administration and Finance Bulletin #12 and a report of the Massachusetts Sustainable Design Roundtable, entitled *"Leading by Example: An Action Plan for Green Buildings in Massachusetts State Construction Projects"* .

The new standard requires all state government new buildings and major renovations over 20,000 square feet to be LEED certified ***and*** to be 20% more efficient than the Mass. Energy Code, utilize third party commissioning, meet two water conservation points in LEED, as well as follow minimum smart growth criteria. (LEED stands for the Leadership in Energy and Environmental Design standard established by the U. S. Green Building Council.)

The Roundtable report and "MA LEED Plus" standard are available at: http://www.mass.gov/envir and http://ww.mass.gov/cam/whatsnew



The MA Sustainable Design Roundtable, a voluntary, public private partnership of 70 design & construction professionals & state officials, was charged in 2004 with developing recommendations on how to promote sustainability when constructing the Commonwealth's buildings.

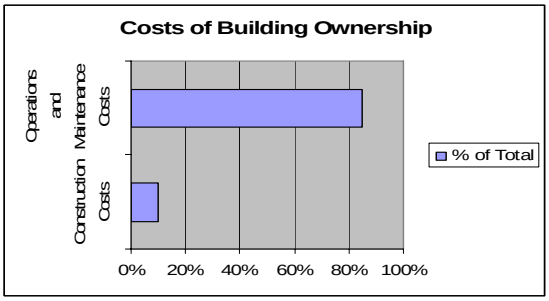
Cape Cod Community College Opens New Green Technology Center

As part of the construction of the new Lyndon P. Lorusso Technology Center, Cape Cod Community College began getting power from a 27 Kilowatt solar photovoltaic array in September of 2006. The project, built jointly by the College and the Division of Capital Asset Management, is also green in other ways, including high efficiency heating and cooling systems, daylighting, the use of recycled materials, advanced lighting control systems, and a graywater system that will use rainwater to flush toilets. The building is expected to get 15% of its electric power from the PV panels and should use 35-40% less energy than a similar standard building. A payback period of 5 to 7 years is expected for both energy and water efficiency investments. The project is expected to receive LEED Gold certification later this year.

"We are thrilled with our new LEED-certified building," said Kathleen Schatzberg, the College's President, "thrilled with the energy savings we will achieve over the life of the building and to be in the vanguard of proving these construction methods can work effectively within our fiscal constraints. We know that this "green" building was both economically smart and an ethical model of doing our part to respond to climate change."

Costs of Green Buildings

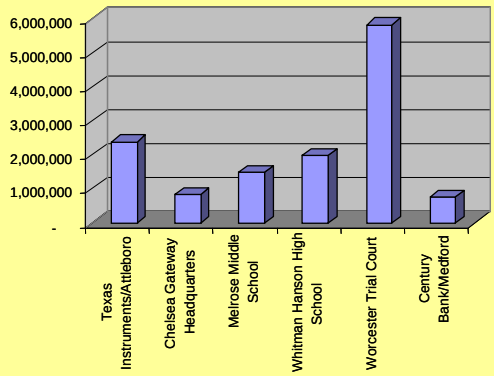
Many are appropriately concerned about the costs of building green, given tight budgets and rising construction costs. This section identifies some of the key issues to consider when considering green design and construction.



Over the multi-decade life of a building, construction costs are less than 20% of the total costs necessary to operate and maintain the building.

The Paybacks Are Clear

In several recent studies, green buildings have been shown time and time again to pay for themselves in just a few years. More recently, studies have shown that by using an integrated design process, the upfront cost can sometimes be ZERO, by downsizing systems due to decreased demand. In other words, by building more efficiently, which may cost more, a builder can reduce the upfront costs of equipment needed to heat, cool and light a building, resulting in reduced capital costs that offset green design costs at the outset.



A recent Massachusetts utility analysis of 6 public and private projects showed that for an average up-front cost of $357,000, energy consumption was 29 percent better than the minimum Massachusetts energy code, resulting in an average payback of 5 years, ***before*** factoring in ***any*** utility incentives.

Mass College of Art Installs Green Roof

During the summer of 2006, Massachusetts College of Art installed a 1,000 square foot green roof section on their Tower Building, on Huntington Avenue in Boston. This roof is designed to demonstrate a range of native plant species that can thrive on an 11th story roof garden, where the wind is strong, water is scarce and soils are lean. Students designed and constructed the pilot project to be a permanent structure on campus, accessible and viewable from a large conference area. Project goals are to show how the green roof retains water and thereby reduces storm-water run-off and how resulting temperature moderation inside the building though increased insulation translates into seasonal energy savings particularly in the summer cooling load. Holyoke Community College is another State College that has installed a large green roof on their new Kittredge Business Center: http://www.hcc.edu/about/Kittredge.html

MCA roof prior to green roof

MCA green installation

MCA green roof upon completion

Green Building Links

MA Sustainable Design Roundtable: http://www.mass.gov/envir/Sustainable/initiatives/initiatives_roundtable.htm
U.S. Green Building Council: http://www.usgbc.org
MA Div. of Capital Asset Management, Sustainable Design: http://www.mass.gov/cam/statewide/sw-sustain.html
Mass. Technology Collaborative, Green Buildings: http://www.mtpc.org/renewableenergy/green_buildings.htm
New Buildings Institute, Inc. Advanced Buildings TM resources: http://www.poweryourdesign.com/
Whole Building Design Guide for Federal MOU on sustainable buildings: http://www.wbdg.org/sustainablemou/

The State Sustainability Program Newsletter is published by the Commonwealth of Massachusetts' Executive Office of Environmental Affairs, Governor Deval L. Patrick, Lt. Governor Timothy Murray, Secretary Ian Bowles. For more information, contact Eric Friedman, Director of State Sustainability, eric.friedman@state.ma.us or Ian Finlayson, State Sustainability Program Manager ian.finlayson@state.ma.us